Amendment to the Specification

The Paragraph beginning at Page 1, lines 6-36, through to Page 3, lines 1-9, is to be deleted and replaced with the Paragraph as follows:

CO-PENDING APPLICATIONS

Various methods, systems and apparatus relating to the present invention are disclosed in the following co-pending applications filed by the applicant or assignee of the present invention simultaneously with the present application:

10/815621	7243835	10/815630	10/815637	10/815638	7251050
10/815642	7097094	7137549	10/815618	7156292	10/815635
7357323	10/815634	7137566	7131596	7128265	7207485
7197374	7175089	10/815620	7178719	10/815613	7207483
7296737	7270266	10/815614	10/815636	7128270	10/815609
7150398	7159777	10/815610	7188769	7097106	7070110
7243849	7204941	7282164	10/815628		

The disclosures of these co-pending applications are incorporated herein by cross-reference.

CROSS-REFERENCES

Various methods, systems and apparatus relating to the present invention are disclosed in the following co-pending applications filed by the applicant or assignee of the present invention. The disclosures of all of these co-pending applications and granted patents are incorporated herein by cross-reference.

7156289	7178718	7225979	09/575197	7079712	6825945
7330974	6813039	7190474	6987506	6824044	6980318
6816274	7102772	7350236	6681045	6678499	6679420
6963845	6976220	6728000	7110126	7173722	6976035
6813558	6766942	6965454	6995859	7088459	6720985
7286113	6922779	6978019	6847883	7131058	7295839
09/607843	09/693690	6959298	6973450	7150404	6965882
7233924	09/575181	09/722174	7175079	7162259	6718061
10/291523	10/291471	7012710	6825956	10/291481	7222098
10/291825	7263508	7031010	6972864	6862105	7009738
6989911	6982807	10/291576	6829387	6714678	6644545
6609653	6651879	10/291555	7293240	10/291592	10/291542
7044363	7004390	6867880	7034953	6987581	7216224

10/291821	7162269	7162222	7290210	7293233	7293234
6850931	6865570	6847961	10/685523	10/685583	7162442
10/685584	7159784	10/804034	10/793933	7068382	7007851
6957921	6457883	7094910	7091344	7122685	7038066
7099019	7062651	6789194	6789191	6644642	6502614
6622999	6669385	6827116	6549935	6987573	6727996
6591884	6439706	6760119	7295332	7064851	6826547
6290349	6428155	6785016	6831682	6741871	6927871
6980306	6965439	6840606	7036918	6977746	6970264
7068389	7093991	7190491	6982798	6870966	6822639
6474888	6627870	6724374	6788982	7263270	6788293
6946672	6737591	7091960	09/693514	6792165	7105753
6795593	6980704	6768821	7132612	7041916	6797895
7015901	7289882	7148644	10/778056	10/778058	10/778060
10/778059	10/778063	10/778062	10/778061	10/778057	7055739
7233320	6830196	6832717	7182247	7082562	6843420
10/291718	6789731	7057608	6766944	6766945	7289103
10/291559	7299969	10/409864	7108192	7111791	10/786631
10/683040	10/778090	6957768	09/575172	7170499	7106888
7123239	6982701	6982703	7227527	6786397	6947027
6975299	7139431	7048178	7118025	6839053	7015900
7010147	7133557	6914593	10/291546	6454482	6808330
6527365	6474773	6550997	7093923	6957923	7131724

BACKGROUND

The Paragraph beginning at Page 4, lines 28-36, is to be amended as follows:

EPCs ~~EPCs~~ are technology-neutral and can be encoded and carried in many forms. The Auto-ID Center strongly advocates the use of low-cost passive RFID tags to carry EPCs, and has defined a 64-bit version of the EPC to allow the cost of RFID tags to be minimized in the short term. For detailed description of low-cost RFID tag characteristics, refer to Sarma, S., *Towards the 5c Tag*, MIT Auto-ID Center (November 2001), the contents of which are herein incorporated by cross-reference. For a description of a commercially-available low-cost passive RFID tag, refer to *915 MHz RFID Tag*, Alien Technology (2002), the contents of which are herein incorporated by cross-reference. For detailed description of the 64-bit EPC, refer to Brock, D.L., *The Compact Electronic Product Code*, MIT Auto-ID Center (November 2001), the contents of which are herein incorporated by cross-reference.

The Paragraph beginning at Page 30, lines 30-31, is to be amended as follows:

Figure 6 is a plan view showing a relationship between a set of the tags shown in Figure ~~6a~~ 5a and a field of view of a netpage sensing device in the form of a netpage pen;

The Paragraph beginning at Page 33, lines 1-5, is to be amended as follows:

Figure 57 is a schematic view of the interaction between a product item, a fixed product scanner, a hand-held product scanner, a scanner relay, a product server, and a product application server;

[[;]] Figure 58 shows a plan and elevation view of a hand-held Hyperlabel™ scanner 4000 according to a preferred embodiment of the present invention;

The Paragraph beginning at Page 36, lines 9-18, is to be amended as follows:

In brief summary, the preferred form of the netpage system employs a computer interface in the form of a mapped surface, that is, a physical surface which contains references to a map of the surface maintained in a computer system. The map references can be queried by an appropriate sensing device. Depending upon the specific implementation, the map references may be encoded visibly or invisibly, and defined in such a way that a local query on the mapped surface yields an unambiguous map reference both within the map and among different maps. The computer system can contain information about features on the mapped surface, and such information can be retrieved based on map references supplied by a sensing device used with the mapped surface. The information thus retrieved can take the form of actions which are initiated by the computer system on behalf of the operator in response to the operator's interaction with the surface features.[[™]]

The Paragraph beginning at Page 36, lines 30-36, through to Page 37, lines 1-3, is to be amended as follows:

As illustrated in Figure 1, a printed netpage 1 can represent an interactive form which can be filled in by the user both physically, on the printed page, and "electronically", via communication between the pen and the netpage system. The example shows a "Request" form containing name and address fields and a submit button. The netpage consists of graphic data 2 printed using visible ink, and coded data 3 printed as a collection of tags 4 using invisible ink. The corresponding page description 5, stored on the netpage network, describes the individual elements of the netpage. In particular it describes the type and spatial extent (zone) of each interactive element (i.e. text field or button in the

example), to allow the netpage system to correctly interpret input via the netpage. The submit button 6, for example, has a zone 7 which corresponds to the spatial extent of the corresponding graphic 8.

The Paragraph beginning at Page 40, lines 23-29, is to be amended as follows:

Various netpage coding schemes and patterns are described in the present applicants' co-pending US application USSN 09/575154 entitled "Identity-Coded Surface with Reference Points", filed 23 May 2000; co-pending US application USSN 10/120441 entitled "Cyclic Position Codes", filed 12 April 2002; co-pending US application USSN 10/309358 entitled "Rotationally Symmetric Tags", filed 4 December 2002; co-pending US Application USSN 10/409864 entitled "Orientation-Indicating Cyclic Position Codes" , filed 9 April 2003; and co-pending US Application USSN 10/786,631 entitled "Symmetric Tags", filed 4 March 2004 ~~(Docket number NPT037)~~.

The Paragraph beginning at Page 45, lines 3-5, is to be amended as follows:

Figure 54 shows the logical layout of another alternative hexagonal tag. This tag design is described in detail in the present applicants' co-pending US application USSN 10/786,631 entitled "Symmetric Tags" ~~(docket number NPT037US)~~.

The Paragraph beginning at Page 51, lines 30-31, is to be amended as follows:

Figure 22 shows the netpage printer class diagram, reflecting printer-related information maintained by a registration server 11 on the netpage network.

The Paragraph beginning at Page 52, lines 34-36, through to Page 53, lines 1-9, is to be amended as follows:

While printing, the printhead CMOS circuitry distributes data from the print engine controller to the correct printing element, latches the data, and buffers the data to drive the electrodes 318 of the active actuator beam pair 308. This causes an electrical current to pass through the beam pair 308 for about one microsecond, resulting in Joule heating. The temperature increase resulting from Joule heating causes the beam pair 308 to expand. As the passive actuator beam pair 309 is not heated, it does not expand, resulting in a stress difference between the two beam pairs. This stress difference is partially resolved by the cantilevered end of the electrothermal bend actuator 320 bending towards the substrate 301. The lever arm 307 transmits this movement to the nozzle chamber 304. The nozzle

chamber 304 moves about two microns ~~to the position shown in Figure 19(b)~~. This increases the ink pressure, forcing ink 321 out of the nozzle 302, and causing the ink meniscus 316 to bulge. The nozzle rim 303 prevents the ink meniscus 316 from spreading across the surface of the nozzle chamber 304.

The Paragraph beginning at Page 54, lines 1-6, is to be amended as follows:

When either nib is in contact with a netpage, the pen determines its position and orientation relative to the page. The nib is attached to a force sensor, and the force on the nib is interpreted relative to a threshold to indicate whether the pen is "up" or "down". This allows an interactive element on the page to be 'clicked' by pressing with the pen nib, in order to request, say, information from a network. Furthermore, the force is captured as a continuous value to allow, say, the full dynamics of a signature to be verified.

The Paragraph beginning at Page 64, lines 14-17, is to be amended as follows:

At a global level, the reader specifies how quantities, dates, times and monetary values are localized. This involves specifying whether units are imperial or metric, a local timezone and time format, and a local currency, and whether the localization consists of *in situ* translation or annotation. These preferences are derived from the reader's locality by default.

The Paragraph beginning at Page 74, lines 10-13, is to be amended as follows:

Clearly neither the watermark nor the user's photograph ~~are~~ is secure in a cryptographic sense. They simply provide a significant obstacle to casual forgery. Online document verification, particularly using a verification pen, provides an added level of security where it is needed, but is still not entirely immune to forgeries.

The Paragraph beginning at Page 98, lines 15-19, is to be amended as follows:

Item information typically flows to the product server in response to situated scan events, e.g. when an item is scanned into inventory on delivery; when the item is placed on a retail shelf; and when the item is scanned at point of sale. Both fixed and hand-held scanners may be used to scan Hyperlabel™ tagged product items, using both laser-based 2D scanning and 2D image-sensor-based scanning, using similar or the same techniques as employed in the netpage pen.

The Paragraph beginning at Page 104, lines 28-31, through to Page 3, lines 1-8 is to be amended as follows:

The imaging unit incorporates both the image sensor 2412 and the image processor 2410, which are usefully combined into a single compact chip as described in the co-pending US applications USSN 10/778,056~~/~~ entitled "Image Sensor with Digital Frame Store~~store~~", USSN 10/778,058 entitled "Image Sensor with Low-Pass Filter", USSN 10/778,060 entitled "Image Sensor with Range Expender", USSN 10/778,059 entitled "Pixel Sensor", USSN 10/778,063 entitled "Image Sensor for Timing Circuit", USSN 10/778,062 entitled "Image Processor with Low Power Mode", USSN 10/778,061 entitled "Image Processor", USSN 10/778,057 entitled "Synchronization Protocol"~~(docket no. NPS047-US—NPS054)~~, all filed 17 February 2004.